

REMARKS

This is a response to the Final Office Action mailed February 18, 2004. Reconsideration and continued examination in light of the above amendments and following remarks is courteously requested.

The Commissioner is hereby petitioned to grant a one month extension of time to the shortened period for response set forth in the Final Office Action. After entry of the one month extension of time, the period for response is extended to June 18, 2004. Should this Response require any additional fee or extension of time, please consider this as a petition for such extension and as authorization to debit Deposit Account No. 50-2091 for any fees as may be required to consider this Response and/or to prevent abandonment of this application.

By this Response, Applicants have amended claims 1, 3, 6-11 and 14-16 and have added new claims 19 and 20. Claims 1-20 are pending in the application, with claims 1, 6, 10 and 15 being independent claims. The Office Action rejected all of the claims under Sections 102 and 103, citing U.S. Patent No. 6,056,906 (Werneth et al.), U.S. Patent No. 6,254,608 (Solar) and U.S. Patent No. 6,293,959 (Miller et al.). The various rejections are addressed herein.

Applicants have amended the independent claims to more clearly describe the balloon, catheter, stent delivery catheter, and method for making a stent delivery catheter. Applicants have also made other stylistic changes to the claims, modifications to the language of various claimed elements to conform to the newly-added language, etc., and have also corrected certain errors.

I. CLAIM REJECTION UNDER 35 USC § 102

Examiner rejects claims 1, 2, 4, 6, 7, 10-13, 15, and 18 under 35 USC § 102 (b) as being anticipated by U.S. Patent 6,056,906 (Werneth et al.). In particular, Examiner states that Werneth discloses a stent delivery catheter comprising an elongate shaft (70) having a lumen (65) therethrough; a balloon (35) mounted on the distal region of the shaft and being in fluid communication with the lumen, the balloon having a flexible wall, an intermediate body, proximal and distal cones, proximal and distal ends attached to the shaft (FIG. 2), and first and second circumferential C-shaped grooves (55) formed of the balloon wall adjacent a transition between the intermediate body and one of the proximal and distal cones wherein the first circumferential groove is present when the balloon is in an inflated state and a deflated state (FIG. 3 and 6); and a balloon expandable stent (20) mounted about the intermediate body of the balloon.

Applicants' independent claim 1 has been amended to recite that the intermediate body is configured to receive a stent thereon, the stent having a proximal and distal end, and that the at least one circumferential groove is formed on the balloon wall between one of the proximal and distal ends of the stent and a respective proximal or distal cone for the purpose of mechanically disengaging the respective cone from the intermediate body. This permits each to move differently in a radial direction and permits the proximal and distal cones to be inflated to a diameter greater than that of the intermediate body so as to retain the stent during stent delivery within the patient. This structure is neither shown nor suggested in Werneth et al. In Werneth et al., the stent is imbedded into grooves formed in the intermediate body of the balloon surface. Furthermore, these grooves are produced by the stent itself and underly the stent to retain the stent and prevent longitudinal slippage or dislodgement during stent delivery within a

patient. These grooves are not for the purpose of mechanically disengaging the intermediate body from one or both cones in order to allow each to move differently in a radial direction. Thus, it is respectfully submitted that Applicants' independent claim 1 is not anticipated by the cited reference and is therefore allowable. Applicants' dependent claims 2-5 are believed to properly depend, either directly or indirectly, from Applicants' amended independent claim 1 and are likewise believed allowable. Finally, Applicants' new claim 19 which provides for a second circumferential groove formed in the balloon is believed to properly depend from amended independent claim 1 and is therefore likewise believed to be allowable.

Amendments similar to those described above in connection with Applicants' independent claim 1 have a likewise been made to Applicants' independent claims 6, 10 and 15. Therefore, it is respectfully submitted that these claims and those which depend, either directly or indirectly, therefrom are believed to be allowable. New claim 20 is believed to properly depend from Applicants' independent claim 15 and recites that the step of forming in amended independent claim 15 is performed prior to the step of mounting. Since this claim depends from amended independent claim 15, it is believed allowable for reasons advanced above.

II. CLAIM REJECTION UNDER 35 USC § 103

Examiner rejects claim 5 under 35 USC § 103 (a) as being unpatentable over Werneth et al. in view of U.S. Patent 6,254,608 (Solar). Dependent claim 5 is believed to properly indirectly depend from Applicants' amended independent claim 1 and is therefore believed allowable therewith since Solar does not supply the deficiencies pointed out above with respect to the Werneth et al. reference.

Examiner next rejects claims 3, 8, 9, 14, 16, and 17 under 35 USC § 103 (a) as being unpatentable over Werneth et al. in view of U.S. Patent No. 6,293,959 (Miller et al.). Claim 3 is believed to properly depend from amended independent claim 1, claims 8 and 9 are believed to properly indirectly depend from Applicants' amended independent claim 6, dependent claim 14 is believed to properly independently depend from Applicants' amended independent claim 10, and dependent claim 16 and 17 are believed to properly depend, either directly or indirectly, from Applicants' amended independent claim 15.

Examiner states it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the balloon of Werneth with the englarged proximal and distal cones of Miller in order to provide a nest portion for the stent. It is respectfully submitted, however, that Miller et al. does not supply the deficiencies pointed out above with respect to Applicants' amended independent claims. Thus, each of these dependent claims, by virtue of their dependency, are believed to distinguish over the cited reference taken singly or in combination.

CONCLUSION

The cited references neither anticipate nor render obvious each and every element of Applicants' claims, particularly, the provision of a circumferential groove between either the proximal or distal end of a stent mounted on a balloon and the proximal and distal cones respectively. Thus, it is respectfully submitted that all claims now pending in the application are allowable.

Appl. No. 09/965,473

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In view of Applicants' amendments and remarks, it is respectfully submitted that Examiner's rejections under 35 USC § 102 and 103, have been overcome. Should the Examiner have any questions or wish to further discuss this application, Applicants request that the Examiner contact the Applicants' attorneys at 480 385-5060.

If for some reason Applicants have not requested a sufficient extension and/or have not paid a sufficient fee for this response and/or for the extension necessary to prevent abandonment on this application, please consider this as a request for an extension for the required time period and/or authorization to charge Deposit Account No. 50-2091 for any fee which may be due.

Respectfully submitted,

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Dated: June 18, 2004